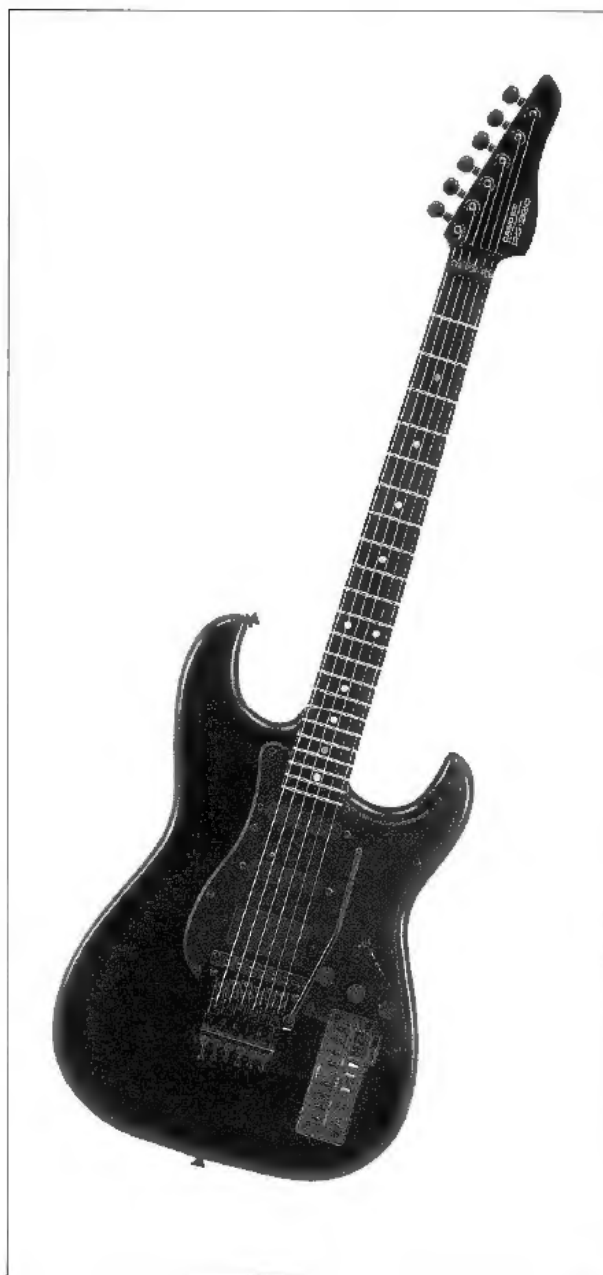


**Casio
Guitar Synth
PG-380
Player's
Manual 1**

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CASIO®

**Casio Guitar Synth
PG-380 Player's
Manual**

Thank you and congratulation on your choice of a CASIO PG Guitar. Your new PG Guitar lets you take advantage of the freedom of musical expression provided by the electric guitar, while making use of the unlimited sound creation potential of the 64 preset tones (iPD sound source). To obtain optimum performance and assure long-term reliability, be sure to read this manual carefully before using your new PG Guitar.

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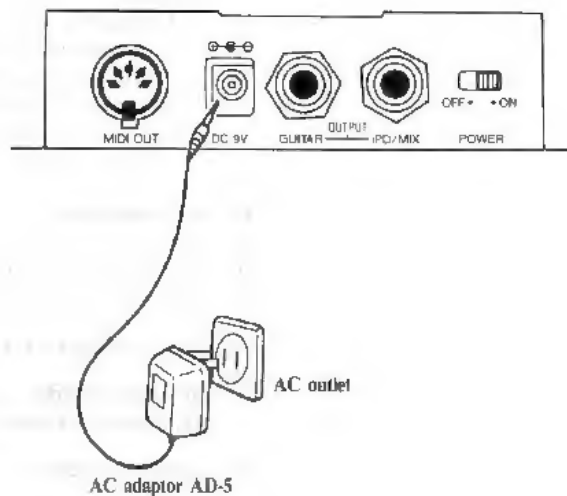
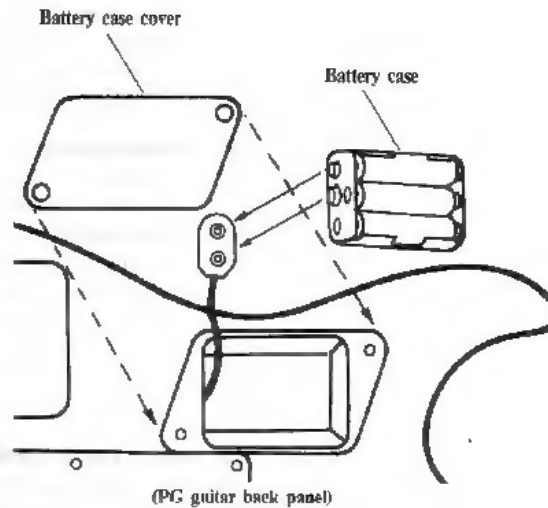
Supplying Power to Your Guitar

In addition to being a “normal” electric guitar, your PG guitar features a built-in sound source which produces 64 preset tones as well as MIDI circuitry. Because of this, the PG Guitar requires electricity for operation.

To power the PG guitar, you can connect an optional AC adaptor (AD-5), or use 6 AA (R6P/SUM-3) batteries. When you’re not using the preset tones, or your guitar as a MIDI controller, batteries or AC power are not necessary.

When changing batteries, be sure to replace all 6 at the same time. If battery power is too weak, your guitar’s functions may operate abnormally.

When battery power weakens, the LED display starts flashing. Within approximately 15 minutes, the power is automatically cut off to prevent malfunction caused by weakened batteries.



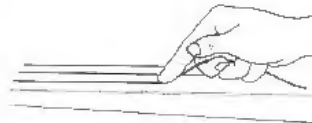
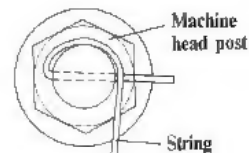
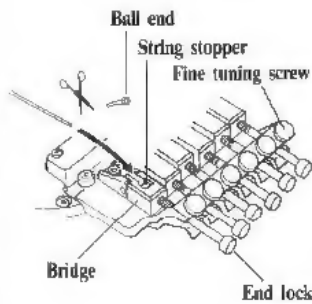
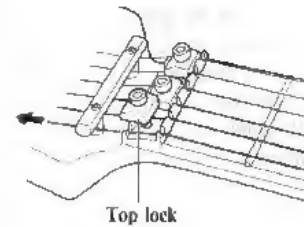
Changing Strings

Changing strings whenever they become worn or lose their brilliance (hopefully before they become corroded or rusty!). You'll find that fresh strings not only sound better, they're easier to keep in tune as well (once they've gotten past the initial "stretching" stage). They're also easier to play than old ones.

When you've finished playing, be sure to wipe the strings and frets with a dry cloth to prevent premature corrosion caused by hand perspiration.

To change strings

- ① Loosen the top locks, tail end locks using the custom wrench and remove all old strings.
- ② Cut off the ball end of the new strings.
- ③ Place the string in between the bridge and string stopper and tighten tail end lock.
- ④ With the string in proper position over the nut, insert the tip of the string through top lock and through the hole in the machine head post.
- ⑤ "Tie" the string off firmly.
- ⑥ Holding the string fairly taut with your right hand, wind up the excess string by turning the corresponding tuning knob with the other hand (or try using a tuning crank).
- ⑦ Once all strings are in place, tune using tuning knobs while checking with the built-in electronic tuner. (See page 6 for tuning.)
- ⑧ Screw lock all strings using the top locks.
- ⑨ Retune all strings using the fine tuning screws.



Tuning the PG Guitar

Your CASIO PG Guitar features built-in electronic tuning circuitry which makes it easy to stay in tune without the aid of pitch pipes, external strobe tuners or other instruments.

Also, you may need to make fine octave tuning adjustments at the bridge assembly if certain strings seem difficult to tune. These adjustments are made individually for each string.

To tune your guitar

① Select the frequency of the standard pitch (A4).

Before actually tuning your guitar strings, you can use microswitches number 9 and 10 on the back of the guitar to select the frequency of the standard pitch you will tune to.

This is simply a basis to work from when you tune your guitar — if one note is in tune you can tune the others to it.

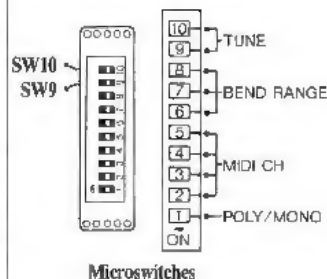
As with other instruments, the PG guitar uses A4 as the standard pitch. You can specify the frequency of A4 by turning the microswitches ON or OFF according to the chart shown on the right.

② Tune each string by using the tuning indicators.

Notice that there are two arrows which light up when you play an open string on the guitar. These are the tuning indicators.

One is marked “#” indicating that the open string being played is sharp, and the other is marked “b” indicating that the open string being played is flat.

When these indicators light simultaneously, the string is in tune (within ± 3 cents).



Microswitches

SW9	SW10	Freq.
Off	Off	440 Hz
Off	On	441 Hz
On	Off	442 Hz
On	On	443 Hz

The microswitches and trigger pickup sensitivity controls on the back of the guitar are protected by black rubber covers. These controls are made up of precision electronic components which may be damaged if exposed to static electricity or foreign elements, so be sure to replace the rubber covers after making any adjustments.

- # ▲ Lights to indicate that the string is sharp
- b ▼ Lights to indicate that the string is flat

If two or more strings are played simultaneously, both the “#” and “b” indicators will not light.

Tuning the PG Guitar

Your CASIO PG Guitar features built-in electronic tuning circuitry which makes it easy to stay in tune without the aid of pitch pipes, external strobe tuners or other instruments.

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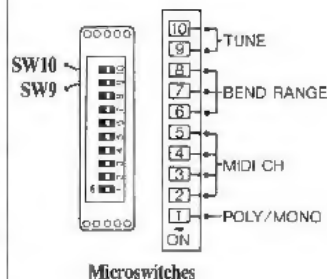
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- # ▲ Lights to indicate that the string is sharp
- b ▼ Lights to indicate that the string is flat

If two or more strings are played simultaneously, both the “#” and “b” indicators will not light.

You can tune each string by playing it open or at the octave (12th fret). For increased accuracy, you might find it best to tune each string open first, then check the tuning at the 12th fret and make any necessary fine adjustment.

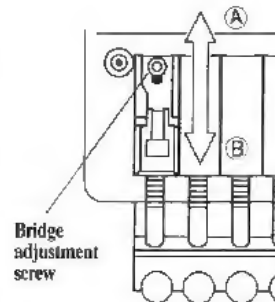
It's important to note that each time a string's pitch is raised 550 cents over its standard tuning, the tuner automatically "shifts" into the next octave.

Because of this, if a string is already sharp (when the "♯" indicator is lit) and you continue to raise its tuning, the "♯" indicator will light and the "♮" indicator will go out. This is because you have exceeded the 550 cent limit and the tuner is indicating tuning for the next octave up.

When you are using your PG guitar as a MIDI controller (see page 13, it is important to tune the MIDI sound source to your PG guitar in order to play totally "in tune". You might also try to detune one or the other for some interesting effects.

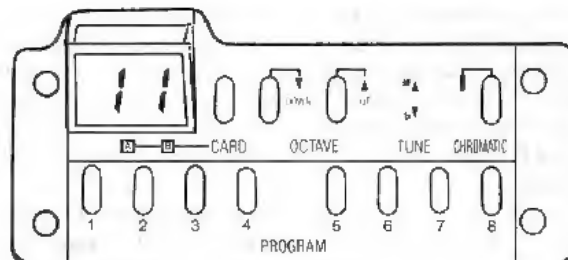
To adjust octave tuning

- Play the string open and then at the octave (12 fret).
- If the pitch is slightly sharp at the 12th fret, loosen the string and unscrew the corresponding bridge adjustment screw. Slightly move the bridge towards the pickup (direction A) and check open/octave tuning again.
- If the pitch is slightly flat at the 12th fret, loosen the string and unscrew the corresponding bridge adjustment screw. Slightly move the bridge towards the tail (direction B) and check open/octave tuning again.



Performance Using the Preset Tones

Your PG guitar features a total of 64 factory-programmed tones that can be selected by assigning the tone number using two keys on the front panel. (Preset tone listed on page 23)



To select a preset tone

(Example: selecting tone number "36")

① Press program key number "3".

② Press program key number "6".

Note: Tone number "11" is automatically selected when the power of the guitar is switched to "ON".

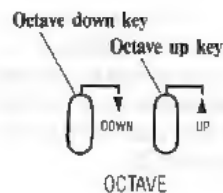


Raising/Lowering Preset/MIDI Sound Octaves

By using the octave keys, you can raise or lower the octave of preset tones. These keys can also be used to raise or lower the pitch of MIDI sounds when using the PG guitar as a MIDI controller.

To raise or lower preset tone

- In the normal status (when both octave key indicators are not lit), preset tones are output in the same octave as the electric guitar sound (corresponding to normal note numbers).
- To raise the preset tone's pitch by one full octave, press the octave up key.
- To lower the preset tone's pitch by one full octave, press the octave down key.



Note: The octave selector setting only relates to preset and MIDI sounds, and has no effect on natural guitar sounds.

Normal and Chromatic Performance

Using the Chromatic key, you can select from either the normal performance or chromatic performance.

In the normal status (when the Chromatic key indicator is not lit), you can bend the notes of preset/MIDI sounds in the same way that you bend normal guitar sounds. In the chromatic status (when Chromatic key indicator is lit) preset/MIDI sounds bend only chromatically — half tone increments.

Chromatic performance

In the normal status (Chromatic function "OFF" condition), the pitch of a note played varies slightly according to how you depress the guitar string. This is normal for "guitar" or other string sounds, but when you want to reproduce the sound of chromatic instruments such as vibraphone, xylophone or even piano, the chromatic function lets you play exactly in tune — for totally realistic reproduction using the preset tones.

Naturally, the chromatic setting only effects preset/MIDI sounds — guitar sounds are output just as the strings are tuned in all cases.



Setting Bend Range

By setting note bend range, you can establish how far up you can bend a preset/MIDI note when the chromatic key is switched OFF (normal status). Eight different settings are possible, using microswitches 6, 7 and 8.

< Bend range setting > ○ = OFF ● = ON

SW6	SW7	SW8	BEND RANGE
○	○	○	2*
○	○	●	3
○	●	○	5
○	●	●	7
●	○	○	12
●	○	●	24
●	●	○	32
●	●	●	48

(* Units: half-tones)

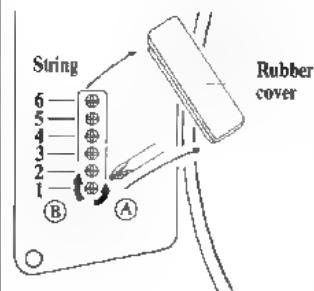
In the POLY mode (see page 13), normal MIDI bend is only possible on one string at a time. If you attempt to bend two or more strings at once, MIDI sounds bend only chromatically.

Trigger Pickup Sensitivity

In some cases, you'll want to adjust the sensitivity of the trigger pickup (pickup that triggers the output of preset sounds or MIDI sounds), for individual strings. When this sensitivity is increased, NOTE ON (trigger output) messages are sent with only a light touch, as are maximum velocity messages. When decreased, the opposite is true.

To adjust trigger pickup sensitivity

- ① Remove the rubber cover protecting the sensitivity controls on the back of the guitar.

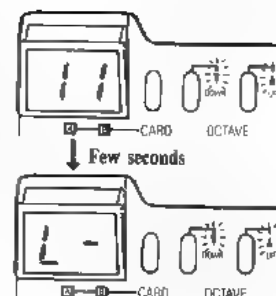


This adjustment can be used in a variety of ways. For example, differences in string gauge or string height may cause an imbalance in preset/MIDI sound characteristics. Or a certain string or strings may stand out, while others seem too weak or don't sound at the same time. These problems can be solved by increasing or decreasing trigger pickup sensitivity.

Your PG guitar features Sensitivity Check function using the LED display. The display will show the trigger pickup sensitivity of each string in numerals ("0"—"99"), and also indicates if the setting is too high ("OL" = Over Level).

In cases where you are using sound sources which feature MIDI Touch Sensitivity when utilizing the PG guitar as a MIDI controller, you may need to decrease trigger pickup sensitivity for best results.

②To shift to Sensitivity Check mode, switch the main power switch ON while depressing both octave UP and DOWN keys simultaneously. The display will show "L-", indicating the Sensitivity Check standby status.



③To check the sensitivity level of a certain string, pluck the string strongly.

④If the display shows a number below 85, the trigger pickup sensitivity for that string needs to be increased by turning the corresponding sensitivity control to the left. (A)

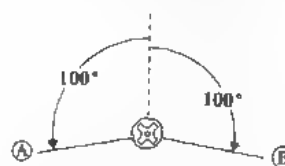


If the display shows "OL" (over level) the trigger pickup sensitivity for that string needs to be decreased by turning the corresponding sensitivity control to the right. (B)



Over level display

⑤Switch the main power switch OFF and then ON again to return to the normal playing condition.



Note: These adjustments are delicate. Do not turn the controls more than 100° (about a quarter turn) in each direction.

Do not use excessive force when making trigger pickup sensitivity adjustment.

Performance Using Optional ROM and RAM Cards

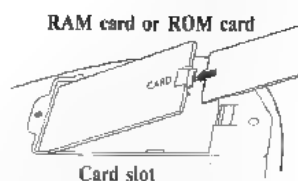
The PG guitar features an outstanding range of 64 built-in tones - but in some cases you may want even more voices at your control. You can increase your sound selection by using optional ROM or RAM cards.

By simply slipping a RAM card into the card slot on the back of the guitar you'll have an additional 64 sounds, for a total of 128 tones at your disposal. Or choose a ROM card for 128 new sounds which combine with preset tones for amazing total of 192 sounds. All of these can be recalled in the same way as preset tones.

With the use of an optional RAM card (RA-500), sounds created on Casio VZ-1 digital synthesizer can be played on the PG-380.

To select sound from a ROM card

① Insert a ROM card firmly into the card slot located on the back of the guitar.

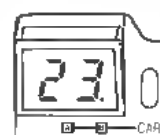


② Press the card key on the front panel once. A dot will appear on the display above the letter "A". This indicates that any of the 64 sounds on side A of the ROM card can be selected — for example sound number "23".

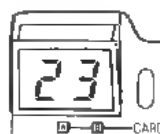


**A dot appears only above the letter "A" when RAM card is used.*

③ Press the card key once more (a total of two times). The dot will move to the "B" position. This indicates that any of the 64 sounds on side B of the ROM card can be selected. Notice that the tone number stays the same until you change it.



④ Press the card key for the third time and operations return to preset sound selection. The dot above "B" goes out, indicating that the preset sound are now selected — in this case preset number "23".



To change the sound number, follow the procedures described in "To select a preset tone", page 8.

**Volume balance, velocity etc. of sounds created on the VZ-1 should be adjusted to match PG-380 before loading on the RAM card to be played on the PG-380.*

Performance Using MIDI (POLY/MONO Performance Modes)

By connecting your PG guitar to other MIDI devices, your PG guitar can be used as a MIDI controller. You can perform in either MONO or POLY MIDI performance modes. In the POLY mode, all six strings can be used to control the same MIDI timbre. In the MONO mode, it is possible to assign each string a different sound source.

To select the performance mode

Turn microswitch number 1 ON or OFF, according to the chart shown to the right. (A)

To perform in the POLY mode

In the POLY mode, all 6 strings control the same MIDI timbre.

- ① Set the guitar to the POLY mode (see figure A).
- ② Make sure that the MIDI sound source is set to the same MIDI receive channel of the guitar (see figure B).
- ③ Match MIDI bend range of guitar and sound source (see page 22).

A

SW1	MODE
OFF	POLY (MODE 3*)
ON	MONO (MODE 4)

* See MIDI Implementation Chart.

B (MIDI guitar MIDI Transmission channel) ○ = OFF, ● = ON

Transmission Channel		SW2	SW3	SW4	SW5
POLY mode SW1=OFF	MONO mode SW1=ON				
1	1-6	○	○	○	○
2	2-7	○	○	○	●
3	3-8	○	○	●	○
4	4-9	○	○	●	●
5	5-10	○	●	○	○
6	6-11	○	●	○	●
7	7-12	○	●	●	○
8	8-13	○	●	●	●
9	9-14	●	○	○	○
10	10-15	●	○	○	●
11	11-16	●	○	●	○
12	11-16	●	○	●	●
13	11-16	●	●	○	○
14	11-16	●	●	○	●
15	11-16	●	●	●	○
16	11-16	●	●	●	●

To perform in the MONO mode

In the MONO mode, each string can be used to control a different MIDI timbre.

- ① Set the guitar to the MONO mode (see page 13 figure A)
- ② Make sure that the MIDI transmit channel numbers of each string correspond to the MIDI receive channels of sound source(s).
- ③ Match MIDI bend range of guitar and sound source (see page 22).

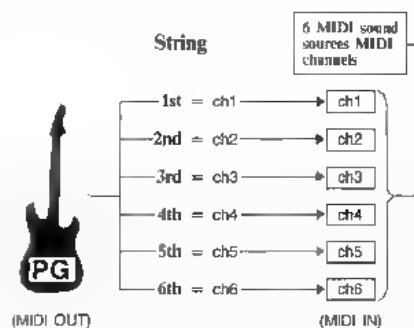
TRANSMIT CHANNELS IN THE MONO MODE

String	
1	Basic channel
2	Basic channel + 1
3	Basic channel + 2
4	Basic channel + 3
5	Basic channel + 4
6	Basic channel + 5

In the MONO mode, PROGRAM CHANGE and BEND RANGE messages are transmitted for all strings. Because of this, bending of multiple strings is possible.

Example of MONO mode performance

Using the PG guitar MIDI to control 6 sound sources (or MIDI timbres).



If you're using a sound source such as the Casio VZ-1, CZ-1 or CZ-5000 which is capable of receiving MIDI MONO mode messages, you can control up to 6 voices through a single unit (providing the sound source features 6 sound source channels).

Making Program Changes

Your PG guitar lets you make "remote" selection of MIDI voices. You can send MIDI program change number using the eight program keys on your PG guitar so you don't have to use controls on the MIDI sound source.

To make program changes

To make program changes assign a number using the program keys. The numbers on the display corresponds to program change number as shown on the chart.

It's important to note that MIDI Program Change numbers are not synonymous with "voice" or "program" numbers on your MIDI sound source. Naturally, the program or voice numbering system for individual instruments are different.

In the normal or card "A" status (when RAM or ROM card is used), program change numbers 0 to 63 can be transmitted.

In the card "B" status (when ROM card is used) program change numbers 64 to 127 can be transmitted.

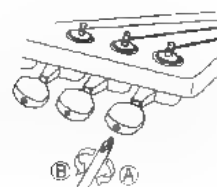
Display	Program Change (normal status or card "A")	Program Change (card "B")
11 - 18	0 - 7	64 - 71
21 - 28	8 - 15	72 - 79
31 - 38	16 - 23	80 - 87
41 - 48	24 - 31	88 - 95
51 - 58	32 - 39	96 - 103
61 - 68	40 - 47	104 - 111
71 - 78	48 - 55	112 - 119
81 - 88	56 - 63	120 - 127

Machine Head Torque

By adjusting the torque of the machine head, you can prevent strings from becoming detuned (to some extent).

To adjust machine head torque

● Using ■ Philips screwdriver, tighten or loosen the screw holding each tuning knob. Turn to the left (B) to loosen torque and to the right (A) to tighten torque.



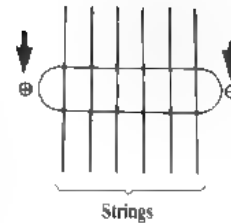
Adjusting Guitar Pickup Height

By adjusting pickup height, you can make delicate adjustments in sound characteristics. When the pickup is brought closer to the strings (raised), the sound becomes fuller, while when the pickup is lowered the sound becomes thinner and sharper.

To adjust pickup height

- Turn the screws at both sides of the pickup(s) to lower or raise the pickup.

As a basic rule, the surface of the pickups should be between 2 and 3mm from the strings when the strings are held down at the 22nd (top) fret.



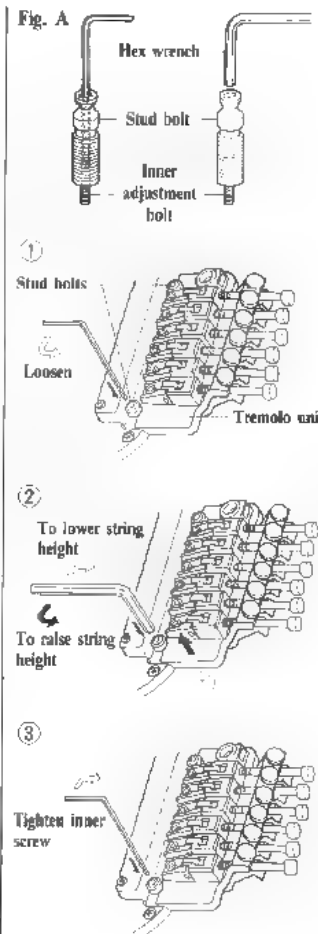
Adjusting Bridge Height

Depending on the gauge of strings you will be using, the style of music and the type of sound you want to obtain, you'll probably want to adjust string height (distance from the fret-board and pickups), by raising or lowering the bridge for each string. A special wrench is provided for this purpose.

To adjust bridge height

- The stud bolts in the PG-380's tremolo unit feature an inner adjustment bolt which can be used to fix the lowest position of the stud bolt (Fig. A). A stud bolt cannot be lowered any further if its inner bolt is tightened, however adjustment can be made by first loosening the inner bolt. Refer to the following procedures to adjust string height.

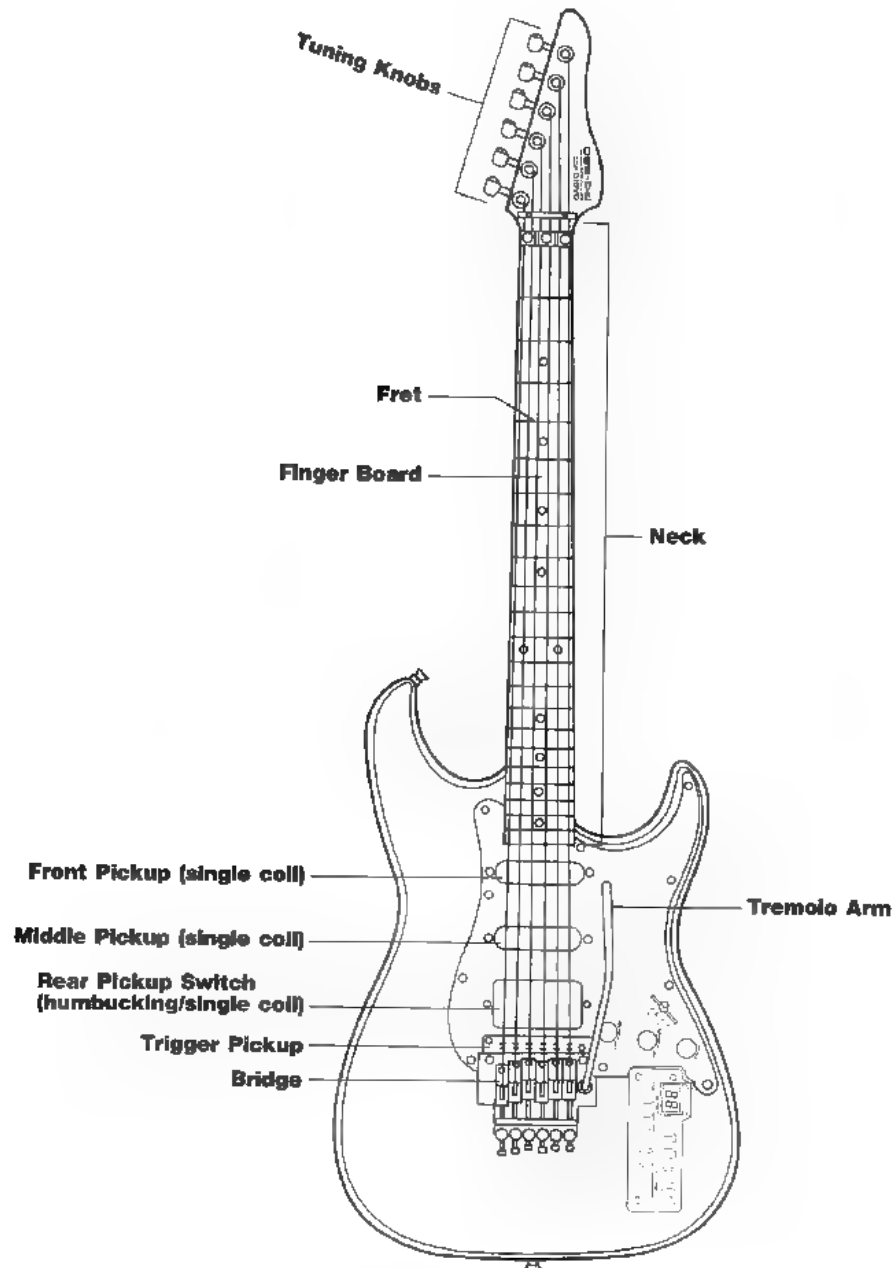
- ① Insert the smallest accessory hex wrench fully into the stud bolt and loosen the inner adjustment bolt.
- ② Using the larger hex wrench, turn the stud bolt to adjust string height.
- ③ When you've adjusted string height to the desired position, use the small hex wrench to tighten the inner adjustment screw fully. This will lock the bridge height.



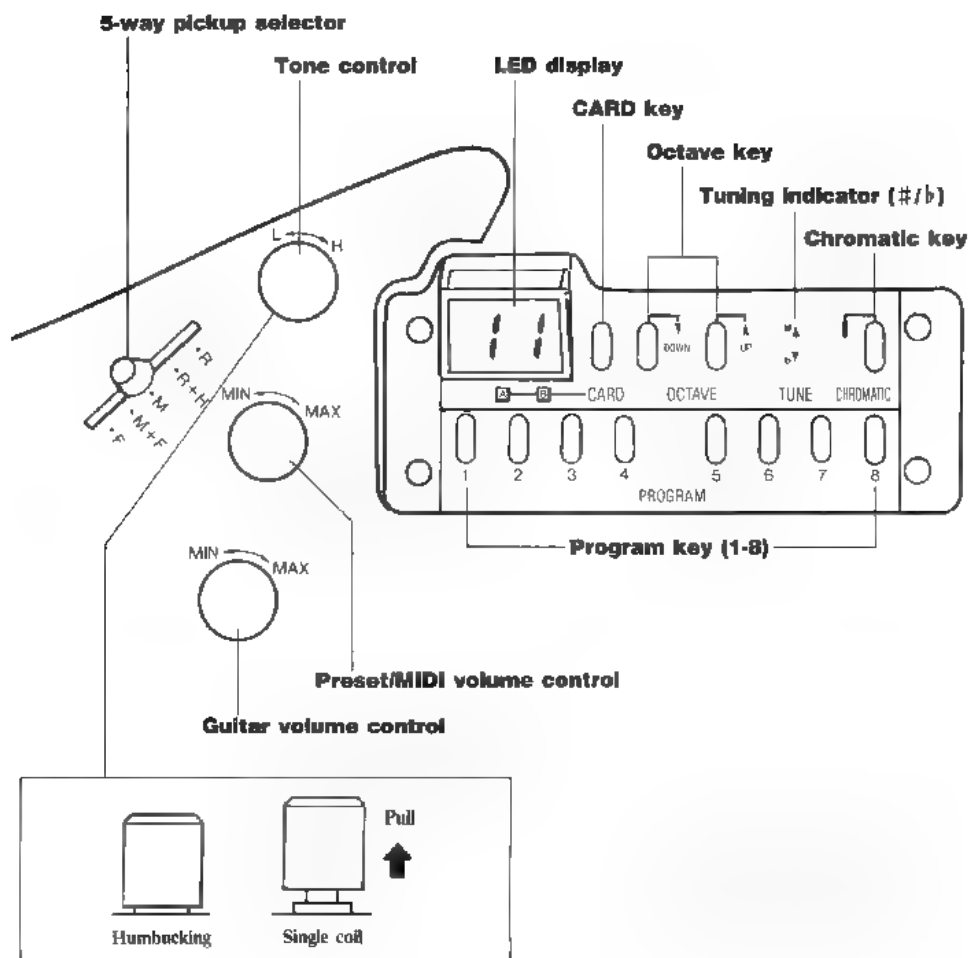
Taking Care of Your PG Guitar

- Avoid extremes of temperature, excessive humidity and direct sunlight.
- Your guitar features precision electronic components. Any modification of, or tampering with internal components can be the cause of malfunctions or damage.
- Do not use alcohol, thinner or similar chemicals for cleaning.
- To preserve the life of strings and frets, always wipe your guitar with a clean, dry cloth after each use.
- When transporting your PG guitar, always put it in a hard or soft case for protection. It's also a good idea to remove the tremolo arm and loosen strings when transporting your instrument for long distances.
- Always replace the rubber covers on the rear of your guitar after making sensitivity or microswitch adjustments.

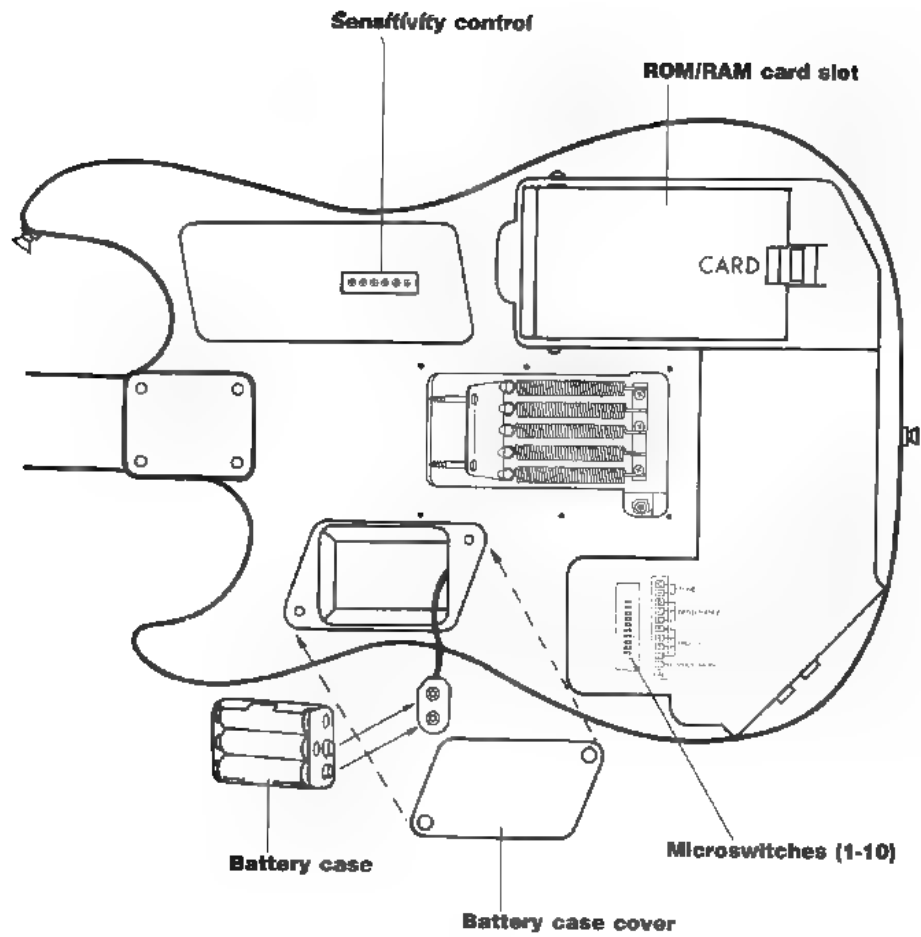
General Guide—An Overall View of the PG Guitar



■ Control Section



■ Back panels



Specifications

Body	Alder
Neck	Maple
Fingerboard	Ebony, 22 frets
Pickups	Single coil (PS-581A) × 2 Humbucking (PH-641A) × 1
Tremolo unit	Precision tremolo unit
Guitar controls	Volume, tone (rear pickup switch), 5-position pickup selector
Preset tone/MIDI controls	Preset tone volume, card key, octave up key, octave down key, chromatic key, program keys (1 - 8), microswitches (1 - 10)
MIDI out message	Program change (0 - 63, 0 - 126 when using ROM card), basic channel (1 - 16), mode 3 (poly), mode 4 (poly), velocity, pitch bend
Electronic tuner	Tuning indicators (#/b), standard pitch (440/441/442/443 Hz)
Inputs/outputs	Guitar out, preset tone out, MIDI out, DC 9V
Power	6 AA (R6P/SUM-3) batteries or AC adaptor (AD-5, optional) Consumption: 2 W
Dimensions/Weight	1000 × 322 × 71 mm / 4.5 kg (39 ³ / ₈ " × 12 ¹¹ / ₁₆ " × 2 ¹³ / ₁₆ ") / 9.9 lbs
Standard accessories	Batteries, guitar cord × 2, tremolo arm, wrench × 4
Optional accessories	Soft case (SC-75G), Hard case (HC-51G), RAM card (RA-500), AC adaptor (AD-5)

**Design and specifications are subject to change without notice.*

Microswitches

(MIDI guitar MIDI Transmission channel) ○ = OFF, ● = ON

Transmission Channel		SW2	SW3	SW4	SW5
POLY mode SW1 = OFF	MONO mode SW1 = ON				
1	1-6	○	○	○	○
2	2-7	○	○	○	●
3	3-8	○	○	●	○
4	4-9	○	○	●	●
5	5-10	○	●	○	○
6	6-11	○	●	○	●
7	7-12	○	●	●	○
8	8-13	○	●	●	●
9	9-14	●	○	○	○
10	10-15	●	○	○	●
11	11-16	●	○	●	○
12	11-16	●	○	●	●
13	11-16	●	●	○	○
14	11-16	●	●	○	●
15	11-16	●	●	●	○
16	11-16	●	●	●	●

SW6	SW7	SW8	Bend Range
○	○	○	2*
○	○	●	3
○	●	○	5
○	●	●	7
●	○	○	12
●	○	●	24
●	●	○	32
●	●	●	48

SW9	SW10	Freq.
○	○	440 Hz
○	●	441 Hz
●	○	442 Hz
●	●	443 Hz

* (Units: half-tones)

Display	Preset tone	Display	Preset tone
11	VZ BASS	51	AVANALOGH
12	PIANO BASS	52	MELLOW BRASS
13	SEQ BASS	53	AFRO BRASS
14	PAST BASS	54	THE SAX
15	SYNTH BASS	55	VZ TRUMPET
16	60's BASS	56	R&B BRASS
17	HARP	57	BRASTRINGS
18	KOTO	58	OVER BRASS X
21	STEEL STRING	61	SPACE ORCH
22	GITIANO	62	FANTASIA
23	BACKING GUITAR	63	PG CINEMA
24	CLAVICHORD	64	WINDINGS
25	MUTE CLAVI	65	VELO ORCH
26	SYN CLAVI	66	HORN/STRINGS
27	DIST GUITAR	67	LIGHT STRINGS
28	DISTORTAR	68	VZ STRINGS
31	SERENE VIBES	71	CELLO
32	VZ VIBES	72	WOOD WINDS
33	VIBRAPHONE	73	HARMO LEAD
34	VZ PIANO	74	WILD SYN LEAD
35	MELLOW PIANO	75	FUSION LEAD
36	VZ EP	76	JAZZ FLUTE
37	DYN VZ PIANO	77	PRIMAL SCREAM
38	CLAVI PIANO	78	VZ-MONICA
41	EMERALD BLUE	81	AMBULANCE
42	TEAR DROPS	82	EXPLOSION A
43	TOI PERCUSSION	83	SYNTH TOM
44	VZ MARIMBA	84	FESTIVAL
45	BELLS	85	MAZE
46	CHURCH BELL	86	CHURCH ORGAN
47	STEEL DRUM	87	WARM ORGAN
48	COWBELL	88	COOL ORGAN

**Guidelines Laid
Down by FCC Rules
for Use of the Unit
in the U.S.A.
(Not Applicable to
Other Areas).**

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

CASIO GUITAR SYNTH

Model PG-380

MIDI Implementation Chart

Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 through 16 CH 1 through 16 CH	× ×	Set using microswitches.
Mode	Default Messages Altered	Mode 3, 4 (M=6) × *****	× × ×	Set using microswitches.
Note Number:	True voice	24—79(DOWN), 36—91 (NORMAL), 48—103(UP)	×	Octaved can be raised or lowered.
Velocity	Note ON Note OFF	○ 9n v = 1—127 × 9n v = 0	× ×	
After Touch	Key's Ch's	× ×	× ×	
Pitch Bender		○	×	14 bits effective.
Control Change	6, 38 100, 101	○* ○(0)*	× ×	Data Entry (MSB, LSB) RPC (LSB, MSB)
Prog Change:	True #	○ 0—127 *****	×	When using ROM card.
System Exclusive		○	×	Bend range.
System Common	: Song Pos : Song Sel : Tune	× × ×	× × ×	
System Real Time	: Clock : Commands	× ×	× ×	
Aux Mes-	: Local ON/OFF : All Notes OFF : Active Sense sages : Reset	× × × ×	× × × ×	
Remarks	*RPC = Registered parameter control number RPC #0: Pitch bend sensitivity			

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

○ : Yes
× : No

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